

WHAT IS CLAIMED IS:

1. A cell for expressing serotonin (5HT) isolated from a human NT2 cell line.
2. A cell for expressing gamma-aminobutyric acid (GABA) isolated from a human NT2 cell line.
3. A cell for expressing serotonin (5HT) cloned from a cell obtained from a human NT2 cell line.
4. A cell for expressing gamma-aminobutyric acid (GABA) cloned from a cell obtained from a human NT2 cell line.
5. A method of treating a neurological disease, condition, or disorder, comprising:

administering to a subject in need thereof a suitable amount of serotonin (5HT) expressing hNT2 cells.

6. The method of Claim 5, wherein:

the hNT2 cells are transplanted in or adjacent to the spinal cord of the subject.

7. The method of Claim 5, wherein:

the hNT2 cells are transplanted in or adjacent to the brain of the subject.

8. The method of Claim 5, wherein:

the hNT2 cells are transplanted at a location in or adjacent to the central or peripheral nervous system of the subject.

9. A method of treating a neurological disease, condition, or disorder, comprising:

administering to a subject in need thereof a suitable amount of gamma-aminobutyric acid (GABA) expressing hNT2 cells.

10. The method of Claim 9, wherein:

the hNT2 cells are transplanted in or adjacent to the spinal cord of the subject.

11. The method of Claim 9, wherein:

the hNT2 cells are transplanted in or adjacent to the brain of the subject.

12. The method of Claim 9, wherein:

the hNT2 cells are transplanted at a location in or adjacent the central or peripheral nervous system of the subject.

13. A composition for treating a neurological disease, condition, or disorder, comprising:

- a) a cell for expressing a bioagent selected from the group consisting of serotonin (5HT), and gamma-aminobutyric acid (GABA), the cell having been isolated from a human NT2 cell line; and
- b) a suitable carrier.

14. The composition of Claim 13, wherein:
- a) the neurological disease, condition, or disorder comprises one or more of pain, spasticity, epilepsy, depression, mobility disorder, sensory disorder, Parkinson's, or Alzheimer's disease.
15. A composition for treating a neurological disease, condition, or disorder, comprising:
- a) a cell expressing a bioagent selected from the group consisting of serotonin (5HT), and gamma-aminobutyric acid (GABA), the cell having been cloned from a cell obtained from a human NT2 cell line; and
- b) a suitable carrier.
16. The composition of Claim 15, wherein:
- a) the neurological disease, condition, or disorder comprises one or more of pain, spasticity, epilepsy, depression, mobility disorder, sensory disorder, Parkinson's, or Alzheimer's disease.

17. A method of producing a mammal useful for studying a neurological disease, condition, and/or disorder, comprising:

transplanting a suitable amount of serotonin expressing human NT2 cells into or near a mammal's spinal cord, brain, or peripheral nervous system.

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18. The method of Claim 17, wherein the mammal is a rodent.

19. A rodent produced in accordance with the method of Claim 17.

20. A method of producing a mammal useful for studying a neurological disease, condition, or disorder, comprising:

transplanting a suitable amount of gamma-aminobutyric acid (GABA) expressing human NT2 cells into or near a mammal's spinal cord, brain, or peripheral nervous system.

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21. The method of Claim 20, wherein the mammal is a rodent.

- 22. A rodent produced in accordance with the method of Claim 20.
- 23. A cell transplant material, comprising:
 - a) serotonin expressing human NT2 cells.
- 24. A cell transplant material, comprising:
 - a) gamma-aminobutyric acid (GABA) expressing human NT2 cells.